

What is claimed is:

1. A method of digitally watermarking a spot color comprising the steps of:
providing a first multicolor approximation of the spot color;
based at least in part on the first multicolor approximation, providing multicolor components including a digital watermark signal; and
combining a percentage of the spot color with the multicolor components.
2. The method according to claim 1, wherein the first multicolor approximation comprises cyan, magenta and yellow components.
3. The method according to claim 2, wherein the multicolor components comprise cyan, magenta and yellow components.
4. The method according to claim 3, wherein the percentage of the spot color comprising a halftone screening of the spot color.
5. The method according to claim 4, wherein said combining step comprises a halftone screening process.
6. The method according to claim 1, further comprising the step of providing an initial multicolor approximation, prior to the first multicolor approximation, wherein said first multicolor approximation is provided from the initial multicolor approximation.
7. The method according to claim 6, wherein said initial multicolor approximation comprises cyan, magenta, yellow and black components.

8. The method according to claim 7, wherein said first multicolor approximation comprises cyan, magenta and yellow components.

9. The method according to claim 8, wherein the percentage of the spot color comprises halftone screening of the spot color.

10. The method according to claim 9, wherein said combining step comprises halftone screening.

11. The method according to claim 1, further comprising the step of printing the combined spot color percentage and the multicolor components.

12. A digital watermarking method comprising the steps of:
screening a spot color; and
combining the screened spot color with multicolor components, the multicolor components including hidden data.

13. The method according to claim 12, wherein the multicolor components comprise at least cyan, magenta, and yellow.

14. The method according to claim 12, wherein said combining step comprising halftone screening.

15. The method according to claim 12, further comprising a step of determining a percentage level for screening of the spot color.

16. The method according to claim 15, wherein said determining step comprises providing a fixed percentage for the spot color, and combining the fixed percentage for each pixel in an area comprising the spot color.

17. The method according to claim 15, wherein said determining step comprises providing a percentage so as to render at least one of the multicolor components approximately zero.

18. The method according to claim 17, wherein the at least one multicolor component comprises zero.

19. A paper product comprising an image printed thereon, the printed image including a combination comprising a halftone-screening of a spot color ink, and at least cyan, magenta and yellow inks, wherein the cyan, magenta and yellow inks include a digital watermark signal.

20. A method of digital watermarking an image including a spot color comprising the steps of:

approximating the spot color with cyan, magenta and yellow components;
modulating the cyan, magenta and yellow components to include a digital watermark;
combining the modulated cyan, magenta and yellow components with a scaled spot color component; and
applying the combined components to a medium.

21. The method according to claim 20, wherein said approximating step includes approximating the spot color with a black component.

22. The method according to claim 20, further comprising the step of approximating the spot color with cyan, magenta, yellow and black components.

23. A method of embedding a spot color area comprising the steps of:
screening the spot color area to a percentage of its original intensity; and
modulating of a set of pixels within the spot color area to comprise a watermark
signal.

24. The method according to claim 23, wherein the watermark signal comprises
negative intensity adjustments and positive intensity adjustments.

25. The method according to claim 24, wherein the mean of a set comprising the
negative intensity adjustments and the positive intensity adjustments comprises zero.

26. The method according to claim 24, wherein an average of the negative
intensity adjustments is greater than an average of the positive intensity adjustments.

27. The method according to claim 24, wherein an average of the positive
intensity adjustments is greater than an average of the negative intensity adjustments.

28. The method according to claim 23, wherein said modulating step comprises
modulating the set of pixels to a predetermined watermark signal level.

29. The method according to claim 23, wherein said modulating step comprises
modulating the set of pixels in a dynamic range.